

WHAT IS CLAIMED IS:

1. A data structure for representing a plurality of image frame sequences, where each image frame sequence comprises image frames having common image frame  
5 portions and respective image frame portions, each of said plurality of image frame sequences having associated with it a respective stream, wherein each stream comprises groups of pictures (GOP) having a first picture and at least one remaining picture, the data structure comprising:
  - 10 a first set of at least one element for representing data for the first pictures in the plurality of GOPs, wherein each of at least one element in the first set represents data for at least a portion of the first picture of a respective GOP encoded as an I-picture, and wherein each of remaining elements in the first set represents data for at least a portion of the first picture of a respective remaining GOP encoded as at least one of a B-picture and a P-picture; and
  - 15 a second set of one or more elements for representing data for the one or more remaining pictures in the plurality of GOPs, wherein each element in the second set represents data for at least a portion of a particular remaining picture in one of the plurality of GOPs encoded as at least one of a B-picture and a P-picture, and
  - 20 wherein each of the plurality of streams is represented by one or more elements in the first set and one or more elements in the second set.
2. The data structure of claim 1, wherein the first set includes a plurality of elements, one element for each of the plurality of GOPs.
- 25 3. The data structure of claim 2, wherein each of the elements in the first set represents data of the first picture of a respective GOP encoded as an I-picture.
4. The data structure of claim 2, wherein one element in the first set represents data of the first picture of a particular GOP encoded as an I-picture, and  
30 wherein each remaining element in the first set represents data of the first picture of a respective remaining GOP encoded as a difference picture.

5. The data structure of claim 1, wherein the first set includes a single element for representing data for the first picture of one of the plurality of GOPs.
6. The data structure of claim 1, wherein the second set includes a plurality of  
5 elements, one element for each of the remaining pictures in one particular GOP.
7. The data structure of claim 6, wherein the elements in the second set represent data for the particular GOP.
- 10 8. The data structure of claim 6, wherein each of the elements in the second set represents data for a respective remaining picture of the particular GOP, which is encoded as either a P picture or a B picture.
9. The data structure of claim 6, wherein the elements in the second set represents  
15 data for at least one remaining picture of each of the plurality of GOPs.
10. The data structure of claim 1, wherein each picture of the plurality of GOPs includes  
a first portion indicative of static information, and  
20 a second portion indicative of moving information.  
information for one or more groups of channels.
11. The data structure of claim 1, wherein the pictures are encoded using slice-based encoding.  
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12. A data structure, comprising:  
a multiplexed stream comprising a plurality of video streams representing  
respective first portions of a group of pictures (GOP) information structure, each of said  
respective first portions including an access unit associated with an I-picture, and a  
30 video stream representing a remaining portion of said GOP information structure  
including at least one of an access unit associated with a P-picture and an access unit  
associated with a B-picture, wherein:

a concatenation of one of said respective first portions of said GOP information structure and said remaining portion of said GOP structure results in a complete GOP information structure.

5 13. The data structure of claim 12, wherein:

said data structure provides imagery for a plurality of image screens, each of said plurality of image screens including imagery common to all of said plurality of image screens and imagery not common to all of said plurality of image screens;

10 said respective first portions of said GOP structure including both common and non-common screen imagery, said respective second portions of said GOP structure including at least common screen imagery:

14. The data structure of claim 12, wherein said GOP comprises one of a closed GOP data structure and an open GOP data structure:

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15. The data structure of claim 12, wherein said multiplexed stream comprises a transport stream:

16. A method, comprising:

20 multiplexing each of a plurality of video streams representing respective first portions of groups of pictures (GOP) information structures, each of said respective first portions including an access unit associated with an I-picture, and a video stream representing a remaining portion of said GOP information structure including at least one of an access unit associated with a P-picture and an access unit associated with a B-  
25 picture, wherein:

a concatenation of one of said respective first portions of said GOP information structure and said remaining portion of said GOP structure results in a complete GOP information structure.